FIGURE 1A

CHIR 12.12 light chain:

leader:

MALPAQLLGLLMLWVSGSSG

variable:

DIVMTQSPLSLTVTPGEPASISCRSSQSLLYSNGYNYLDWYLQKPGQSPQVLISLGS
NRASGVPDRFSGSGSGTDFTLKISRVEAEDVGVYYCMQARQTPFTFGPGTKVDIR

constant:

RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVT
EQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

FIGURE 1B

CHIR-12.12 heavy chain:

leader:

MEFGLSWVFLVAILRGVQC

variable:

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVISYEESN
RYHADSVKGRFTISRDNSKITLYLQMNSLRTEDTAVYYCARDGGIAAPGPDYWGQGT
LVTVSS

constant:

ASTKGPSVFPLAPASKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVL
QSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPA
PELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAK
TKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPRE
PQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDG
SFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

alternative constant region:

ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVL
QSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPA
PELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAK
TKPRREQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPRE
PQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDG
SFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

FIGURE 2A

DNA sequence of light chain of CHIR-12.12:

5'atggcgctccctgctcagctcctggggctgctaatgctctgggtctctggatccagtggggatattgtgatgactcagtctc
cactctccctgaccgtcacccctggagagccggcctccatctcctgcaggtccagtcagagcctcctgtatagtaatggata
caactatttggattggtacctgcagaagccagggcagtctccacaggtcctgatctctttgggttctaatcgggcctccgggg
tccctgacaggttcagtggcagtggatcaggcacagatttacactgaaaatcagcagagtggaggctgaggatgttgggg
tttattactgcatgcaagctctacaaactccattcactttcggccctgggaccaaagtggatatcagacgaactgtggctgca
ccatctgtcttcatcttcccgccatctgatgagcagttgaaatctggaactgcctctgttgtgtgcctgctgaataacttctatcc
cagagaggccaaagtacagtggaaggtggataacgccctccaatcgggtaactcccaggagagtgtcacagagcaggga
cagcaaggacagcacctacagcctcagcagcaccctgacgctgagcaaagcagactacgagaaacacaaagtctacgcc
tgcgaagtcacccatcagggcctgagctcgcccgtcacaaagagcttcaacaggggagagtgttag3'

FIGURE 2B

DNA sequence of heavy chain of CHIR-12.12 (including introns):

5'atggagtttgggctgagctgggttttccttgttgctattttaaaggtgtccagtgtcaggtgcagttggtggagtctgggggg
aggcgtggtccagcctgggaggtccctgagactctcctgtgcagcctctggattcaccttcagtagctatggcatgcactgg
gtccgccaggctccaggcaaggggctggagtgggtggcagttatatcatatgaggaaagtaatagatactatgcagactc
cgtgaagggccgattcaccatctccagagacaattccaagaacacgctgtatctgcaaatgaacagcctcagaactgaggac
acggctgtgtattactgtgcgagagatggggtatagcagcacctgggcctgactactggggccagggaaccctggtca
ccgtctcctcagcaagtaccaagggcccatcggtcttccccctggcgccccgctagcaagagcacctctgggggcacagc
ggccctgggctgcctggtcaaggactacttccccgaaccggtgacggtgtcgtggaactcaggcgccctgaccagcggc
gtgcacaccttcccggctgtcctacagtcctcaggactctactccctcagcagcgtggtgaccgtgccctccagcagcttgg
gcacccagacctacatctgcaacgtgaatcacaagcccagcaacaccaaggtggacaagagagttggtgagaggccag
cacagggagggagggtgtctgctggaagccaggctcagcgctcctgcctggacgcatccggctatgcagtccccagtcc
agggcagcaaggcaggccccgtctgcctcttcacccggaggcctctgcccgcccactcatgctcagggagagggtctt
ctggctttttccccaggctctgggcaggcacaggctaggtgcccctaacccaggccctgcacacaaaggggcaggtgctg
ggctcagacctgccaagagccatatccgggaggaccctgccctgacctaagcccaccccaaaggccaaactctccact
ccctcagctcggacaccttctctcctcccagattccagtaactcccaatcttctctctgcagagcccaaatcttgtgacaaaac
tcacacatgcccaccgtgcccaggtaagccagcccaggcctcgccctccagctcaaggcgggacaggtgccctagagta
gcctgcatccagggacaggccccagccgggtgctgacacgtccacctccatctcttcctcagcacctgaactcctgggggg
gaccgtcagtcttcctcttccccccaaaacccaaggacaccctcatgatctcccggacccctgaggtcacatgcgtggtggt
ggacgtgagccacgaagaccctgaggtcaagttcaactggtacgtggacggcgtggaggtgcataatgccaagacaaag
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tcagcctgacctgcctggtcaaaggcttctatcccagcgacatcgccgtggagtgggagagcaatgggcagccggagaa
caactacaagaccacgcctcccgtgctggactccgacggctccttcttcctctatagcaagctcaccgtggacaagagcag
gtggcagcaggggaacgtcttctcatgctccgtgatgcatgaggctctgcacaaccactacacgcagaagagcctctccct
gtctccgggtaaatga3'

FIGURE 3A

CHIR-5.9 light chain:

leader:

MALLAQLLGLLMLWVPGSSG

variable:

AIVMTQPPLSSPVTLGQPASISCRSSQSLVHSDGNTYLNWLQQRPGQPPRLLIYKFF
RRLSGVPDRFSGSGAGTDFTLKISRVEAEDVGVYYCMQVTQFPHTFGQGTRLEIK

constant:

RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVT
EQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

FIGURE 3B

CHIR-5.9 heavy chain:

leader:

MGSTAILALLLAVLQGVCA

variable:

EVQLVQSGAEVKKPGESLKISCKGSGYSFTSYWIGWVRQMPGKGLEWMGIIYPGDSD
TRYSPSFQGQVTISADKSISTAYLQWSSLKASDTAMYYCARGTAAGRDYYYYYGMDV
WGQGTTVTVSS

constant:

ASTKGPSVFPLAPASKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVL
QSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPA
PELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAK
TKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPRE
PQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDG
SFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

alternative constant region:

ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVL
QSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPA
PELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAK
TKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPRE
PQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDG
SFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

FIGURE 4A

Coding sequence for short isoform of human CD40:

```
   1 atggttcgtc tgcctctgca gtgcgtcctc tggggctgct tgctgaccgc tgtccatcca
  61 gaaccacccc atgcatgcag aaaaaaacag tacctaataa acagtcagtg ctgttcttg
 121 tgccagccag gacagaaact ggtgagtgac tgcacagagt tcactgaaac ggaatgccct
 181 cctgcggagt aaagcgaatt cctagacacc tggaacagag agacacactg ccacccagcc
 241 aaatactgcg accccaacct agggttcgg gtccagcaga agggcacctc agaaacagac
 301 accatctgca cctgtgaaga aggctggcac tgtacgagtg aggcctgtga gagctgtgtc
 361 ctgcacccgc tatgctcgcc cggctttggg gtccaagcaga ttgctacagg ggtttctgat
 421 accatctgcg agccctgccc agtcggcttc ttctccaatg tgtcatctgc tttcgaaaaa
 481 tgtcacccct ggacaaaggc cccaggatcg gctgagagcc ctggtggtga tcccccatcat
 541 cttcgggatc ctgtttgcca tcctcttggt gctggtcttt atcaaaaagg tggccaagaa
 601 gccaaccaat aa
```

FIGURE 4B

Encoded short isoform of human CD40:

```
   1 mvrlplqcvl wgcllavhp epplacrokq ylnsqccsl cqpgqklvsd ctefteteo
  61 pcgeseflat wnrethchqh kycdpnlglr vqqkgtsetd tictceegwh ctseaccscv
 121 lhrscspgfg vkqiatgvsd ticepcpvgf fsnvssafek chpwtrspga acspggdphh
 181 lrdpvchplg aglyqkggqe anq
```

FIGURE 4C

Coding sequence for long isoform of human CD40:

1 atggttcgtc tgcctctgca gtgcgtcctc tggggcttgt tgctgaccgc tgtccatcca
61 gaaccaccca atgcatgcag agaaaaacag tacctaataa acagtcagtg ctgttctttg
121 tgccagccag gacagaaact ggtgagtgac tgcacagagt tcactgaaac ggaatgcctt
181 ccttgcggtg aaagcgaatt cctagacacc tggaacagag agacacactg ccaccagcac
241 aaatactgcg accccaacct agggcttcgg gtccagcaga agggcaccct agaaacagac
301 accatctgca cctgtaaaga aggctggcac tgtacgagtg aggcctgtga gagcttgttc
361 ctgcaccgct catgctctgc cggtcttttgg gtcaagcaga ttgctacagg ggtttctgat
421 accatctgcg agcccctgcc agtcggcttc ttctccaatg tgtcatctgc tttcgaaaaa
481 tgtcacccct ggacaagctg tgagaccaaa gacctggttg tgcaacaggc aggcacaaac
541 aagactgatg ttgtctgtgg tccccaggat cggctgagag ccctggtggt gatccccatc
601 atcttcgggg tcttgtttgc catcctcttg gtgctggtct ttatcaaaaa ggtggccaag
661 aagccaacca ataaggcccc ccaccccaag caggaacccc aggagatcaa tttccccgac
721 gatcttcctg gctccaacac tgctgctcca gtgcaggaga cttacatgg atgccaaccg
781 gtcacccagg aggatggcaa agagagtcgc atctcagtgc aggagagaca gtga

FIGURE 4D

Encoded long isoform of human CD40:

1 mvrlplqcvl wgclltavhp epptacrekq ylinsqccsl cqpgqklvsd cteftetecl
61 pcgeseftdt wnrethchqh kycdpnlglr vqqkgtseid tictceegwh ctseacescv
121 lhrscspgfg vkqiatgvsd ticepcpvgf fsnvssafek chpwtscetk dlvvqqagtn
181 ktdvvcgpqd rlralvvipi ifgilfaill vlvfikkvak kptnkaphpk qepqeinfpd
241 dlpgsntaap vqetlhgcqp vtqedgkesr isvqerq

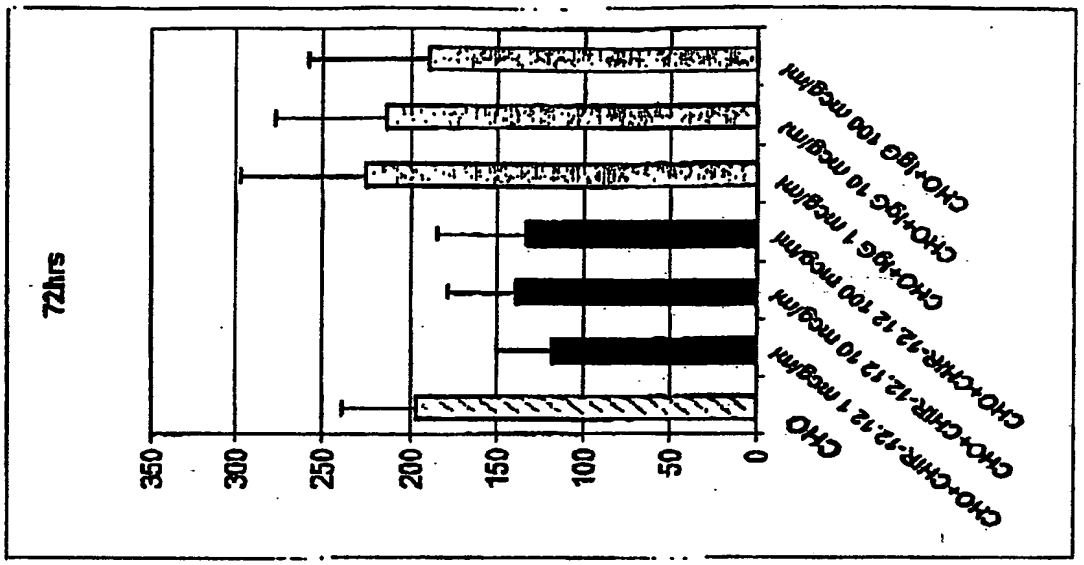

FIGURE 5B

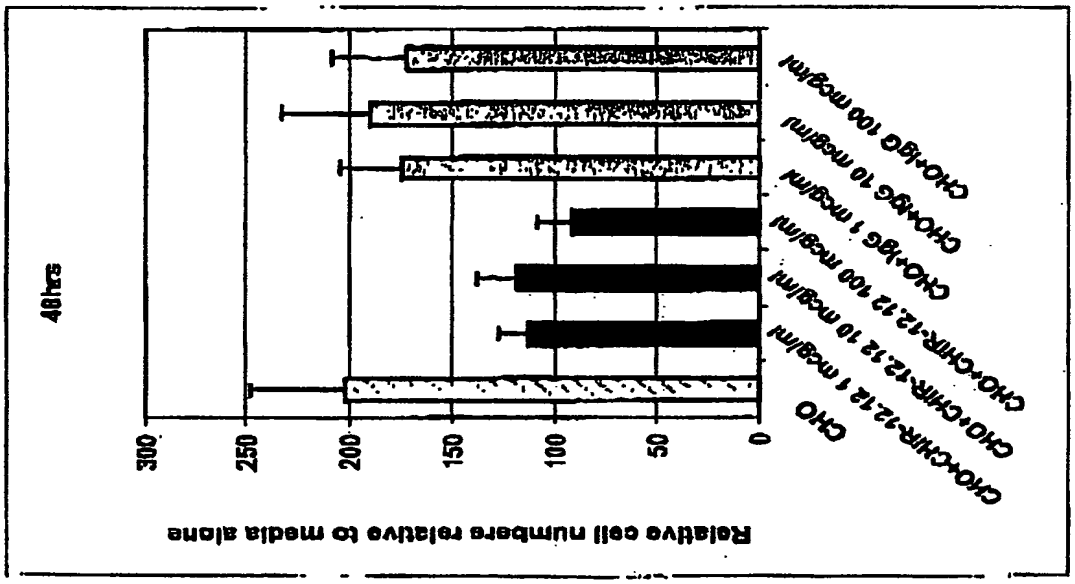

FIGURE 5A

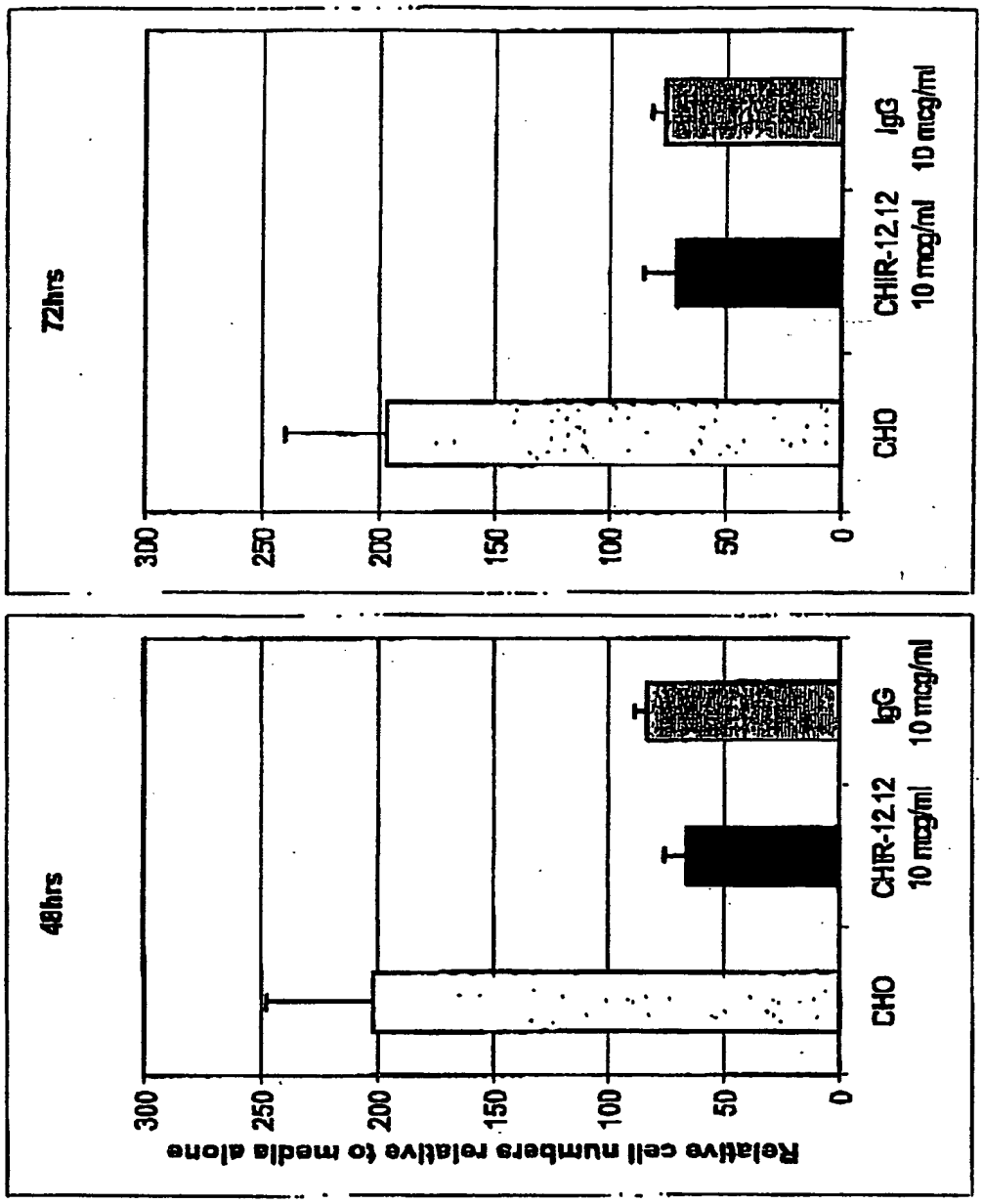

FIGURE 6B

FIGURE 6A

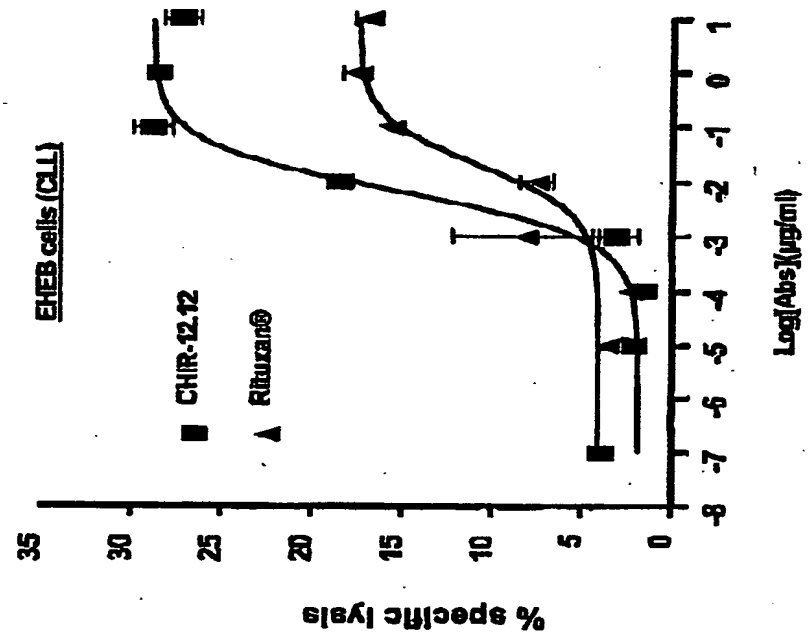

FIGURE 7

FIGURE 8